

CLAIMS

1. A method of acquiring a fingerprint image by moving a finger in front of an elongate sensor of 5 images, comprising the following operations:

- acquiring a succession of mutually overlapping partial images, under the control of a processor,
- searching for that displacement of a first image, with respect to a second image, which affords 10 the best correlation between the two images, and determining, as a number of image pixels, the component of this displacement in the direction perpendicular to the elongate sensor,
- comparing the component of displacement with at 15 least one threshold,
- as a function of the result of the comparison, maintaining, or increasing or decrementing by a time increment dT , a delay T imposed by the processor before the acquisition of a next image.

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2. The method as claimed in claim 1, characterized in that the best correlation is sought on the basis of displacements both in the length direction and in the width direction of the image sensor, and a global image 25 of the finger is reconstructed by superimposing the shifted images which give the best correlation between successive images.

3. The method as claimed in one of claims 1 and 2, 30 characterized in that at each new image, the acquisition delay is readjusted in a direction tending to make the displacement which gives the best correlation remain almost constant around the threshold considered from one acquisition to the next.

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4. The method as claimed in claim 3, characterized in that there is provision both for a high threshold and for a low threshold, the overshooting of the high

threshold bringing about a decrementation by dT of the delay T and the undershooting of the low threshold bringing about an incrementation by dT of the delay T .

5 5. The method as claimed in claim 4, characterized in that the difference between the high threshold and the low threshold is one pixel.

10 6. The method as claimed in claim 5, characterized in that the thresholds are respectively 2 and 3 pixels.

7. The method as claimed in one of claims 1 to 6, characterized in that the correlation is performed on a restricted portion of the image provided by the sensor.

15 8. The method as claimed in claim 7, characterized in that the correlation is effected only in a central zone of the sensor, the sensor having a small number of rows over the whole of its width and additional rows of 20 smaller length in its central part so as to constitute a central correlation zone.

25 9. The method as claimed in one of the preceding claims, characterized in that correlation calculations are performed for displacements which are integer numbers of spacings of the pixels, and an interpolation calculation is performed on the basis of two (or more) correlations neighboring the best correlation calculated so as to find a value of intermediate 30 displacement to within better than a pixel which ought to correspond to a still better theoretical correlation, and this intermediate displacement value is used during the reconstruction of a global image by juxtaposition of shifted partial images.

35 10. The method as claimed in claim 9, characterized in that for the reconstruction of a global image, a partial image is shifted by a displacement value

counted with respect to a first image acquired, by aggregating the successive displacements of the partial images acquired between the first image and the partial image considered.